

CHANNING. (W.)

May 1860.

To Dr. Green.

With the winter and regards

NOTES ON ANHÆMIA,

BY

WALTER CHANNING, M.D.

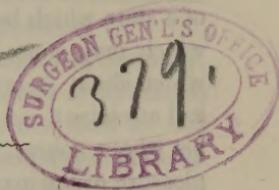


Cf.
N. Eng. J. Med. S. Boston, 1842-3, I, 151-
188.

NOTES ON ANHÆMIA,*

PRINCIPALLY IN ITS CONNECTIONS WITH THE PUERPERAL STATE, AND WITH
FUNCTIONAL DISEASES OF THE UTERUS; WITH CASES.

BY W. CHANNING, M.D.



Without Blood.—This name may have been given to the disease, either on account of the colorless state of the skin, of the want of blood, or of its altered condition. So it may express an external symptom, or the quantity, or the quality of the blood. A name may mislead. Thus it may express what does not exist in a disease, or exist only after such a manner as not to deserve to give a name to the malady. Probably the only reason why the present name, which expresses either a certain symptom, a certain supposed state, or quantity of the blood, remains attached to the disease, is the obscurity of the pathology of the disease itself, and so it may be at this time quite unimportant how the malady is designated. I do not like the name, but I have no better one to substitute for it.

CASES.

CASE I.—The earliest case I remember to have seen of anhæmia, was in a young man. It was chronic. He continued walking abroad a long time. He was *emaciated*, and his appearance differed not from phthisis. It was before the discovery, or use here of aus-

* "The specific name for this disease is sometimes written *Anæmia*, but incorrectly."—*Study of Medicine*.

cultation, and of other means of ascertaining the physical signs of that disease, and it was very probably considered to be such. He died, and I was present at the examination after death. No other morbid organic appearance was noticed than an emphysematous state of the lungs, altogether insufficient to explain the phenomena during life, or to account for the death.

CASE II.—S. H., an unmarried female, aged about 20, presented anhæmia in a chronic and very severe form. Originally her disease was acute hysteria. Its prominent symptoms were a suffocating dyspnœa and a palpitation, which, to her, threatened life. There were severe headache, intolerance of light, acute hearing, rapid pulse, emaciation slight if any, &c. &c.—in short, the whole *mimosis* of hysteria. I have rarely if ever met with an instance more strongly characteristic of a state which brings with it intense suffering to its subject, or which may more deeply alarm the medical attendant. What is worst about it is the control it insensibly obtains over the medical attendant. After a time this may become so complete, that his whole course of medication will be resolved into the will and pleasure of the invalid. This had doubtless been the case in the present instance, as we shall by and by see.

I asked what had been the treatment. She said, mainly, bleeding, and added that she had been bled *ninety-six* times in *two years and a half*. Anhæmia here, as the word imports, was at once accounted for, and instead of admiration at the marble-like, living statue before me, the only wonder was that she lived at all. It was quite clear if any thing could be done for S. H., it must be brought about by an abandonment of a course which had been so ruinous, and which must soon end in death. I directed such means as would tend to make her present comparatively comfortable condition permanent, or at least diminish the severity of a succeeding paroxysm. It was especially ordered that blood-letting should be omitted, unless things grew so bad as absolutely to threaten life, and other things wholly fail to relieve suffering, or remove danger.

She was free from intense suffering for some days. There was at times less than the usual suffering. But it threatened to return. The troubles in the head and chest began to show themselves, and the old remedy was asked for. It was refused, and so it was when demanded with an emphasis rarely met with, and at length death seemed to be so nigh, the distress so great, and the irresponsibility made so heavy and painful, that bloodletting was directed. The quantity was strictly limited to *eight ounces*. This was probably too large. A

vein was opened. The blood burst from the orifice across the room, as from a punctured artery, and was of a bright arterial color. The quantity ordered to be taken was reached almost at once, and the ordinary means employed for checking the bleeding. The ligature above the elbow was loosened, and removed, without checking the rush of blood, and though great care was taken by compresses and firm pressure to stop it, more, much more blood was lost before this was done, than was taken directly by the operation. She was relieved.

Soon after this, this young woman passed out of my notice, and not long after, and in the midst of unmitigated suffering, she died. The body was carefully examined, and nothing morbid was discovered. The heart which had been for so many years the seat of so much, and so severe disturbance, was in a perfectly natural condition.

CASE III.—Mrs. Q. This case was not connected with pregnancy. It followed menorrhagia, and it presented the ordinary symptoms of anhæmia in a severe form. I have rarely known the flesh so well preserved amidst symptoms so grave, and a confinement so long. There did not seem to have been positively any emaciation whatever produced. The loss of strength was complete. She recovered.

CASE IV.—Mrs. M. This case followed confinement, but so many months after, that it may be questioned whether it grew out of the puerperal condition. Mrs. M. recovered from this state perfectly, and about three months after, had an attack of disease in the chest, which from the description was pneumonitis. Anhæmia followed. The whole symptoms in Mrs. M.'s case resembled Q.'s. There was the same appearance of health in regard to roundness or flesh—the same state of skin, the same loss of strength, and noises in the head compared to the same sounds. Mrs. M. recovered. She has been confined since without the least appearance of anhæmia.

Here are four cases of some interest, from the connection in which they stand with each other, and with those which follow. One of them occurred in a young man—was chronic, was fatal, and for a long time of it, resembled, in its extreme emaciation, phthisis. The next was an unmarried young woman. In her, anhæmia followed bloodletting very rapidly repeated, and which was done for symptoms too, viz. of hysteria, which ordinarily depend neither on a condition nor lesions, which are usually treated by, or are benefited by, bloodletting. But let that pass. Hers was a *chronic* case, and without *emaciation*, though the food eaten was, from perfect loss of ap-

petite, as small in quantity as it well could be. The hysterical complication gave new interest to this case. I remember nothing like it in any other case of pure anhæmia. On the contrary, in the latter, absolute stillness of manner, natural in its whole character, and often natural cheerfulness, accompany the disease to its very close ; the patients only expressing surprise that death was coming with approaches so gentle as hardly to warn them of its nearness. The two other cases, Mrs. M. and Mrs. Q., were perfectly well marked. They presented no better prospect of recovery than the others. They were unconnected with the puerperal state, as were the preceding, and the others had been fatal. The interest in these is found in the recovery ; and a question would naturally arise, how far this depended on the condition, the previous condition of these women, and how far on any other fact in their physical state ?

I have, at this writing, three other cases under treatment, both of them following uterine hemorrhage unconnected with labor, in which the symptoms are well marked, though not extreme. In one of these they have come on in the midst of long-continued uterine derangement. In another the time has been shorter, but the patient is greatly exhausted by constant attendance on a long sick child, and by the mental anxiety accompanying it. In a third, probably the catamenia may be about to cease, and the irregularity of the function, with its occasional excess, may explain the anhæmic symptoms. I will briefly give these cases.

CASE V.—Mrs. W., aged 40. Severe catamenial period two months ago. Excessive flooding. Nothing like a product of conception passed, and she had been before regular. Last period, nothing unusual. In addition to exhaustion, just before present period, has come from the country over a very rough road. I was called to see her, and could not but be struck with her apparent bloodlessness. I had often seen her for a few days before, and had noticed how very pale she was. I found her suffering uterine hemorrhage at the catamenial period, and that it had been going on for several days. She was perfectly blanched ; skin, lips, tongue, every visible texture absolutely white. Mrs. W. has more flesh than most women, though less than a year ago. Is confined to bed. The least motion produces a gush of blood. The most distressing symptoms are palpitation, and a sense of beating, or rather thumping, in the head. The superficial veins, as is almost always the case, in this state of things, are most visible on inside of wrist. They present the appearance of

bright pink or rose colored lines just beneath the skin. Some of them seem flat, not the round tubes of vessels.

The treatment consisted in using the plug, and the exhibition of the different medicines which are employed in such cases. She was slowly recovering when I last saw her, and soon after returned to her residence in the country.

CASE VI.—Mrs. L., 43, has children—has had menorrhagia for several periods. From the occasional irregularity of the function, both in time and quantity, she believes it is about permanently to cease. But in the mean time, she is feeble, exhausted, has symptoms of prolapsus uteri, is very pale, has palpitation, is easily disturbed by outward things and occurrences—bloodvessels present an appearance exactly similar to above case.

CASE VII.—Mrs. B., aged 21, has three children ; married between fifteen and sixteen. Menorrhagia excessive, skin very pale, is confined to bed, not emaciated, palpitation, carotids beat violently, blood in vessels like that above described.—I might add easily to these cases, and from very recent observation too ; but they will suffice to show how strong the anæmic tendency may become from excessive uterine action alone, though connected with a periodical function, and how comparatively safe it is when regarded with the true disease which attends pregnancy or follows delivery.

I pass now to a different class of cases. These have connection either with pregnancy, or the puerperal state. At least, they occurred during one of these states, or having begun in the first, the disease has continued into the second. As far as I have seen the disease in these connections, it has been always fatal. I have not seen in it, in any part of its course, any such change as would mislead any one acquainted with it, in regard to the result. I have heard of a case of recovery in a well marked example. I asked of the medical attendant what were its symptoms, and what had been its treatment. He had seen many of the cases of which I shall speak, and could make comparison of them with his. He said he could recollect nothing in the treatment of which he could speak, as having any special agency in bringing about the result. It was a well marked case—had been treated as others had been, and had recovered. He added that after a subsequent labor, anæmia began to show itself, but which yielded to treatment. I shall not give cases in detail. They resemble each other so closely that they would be little else than a repetition of one

another. I shall except a single case, reported by a deceased friend,* whose life and example were most dear to me, and the memory of which will never fade away.

CASES VIII. IX. X.—The first cases I met with, occurred in the practice of Dr. Spear, late of Dedham. He had seen in all, five cases up to the time at which I was called. Four of them were fatal. I saw three of them. In all these, the bloodlessness was extreme. The animal functions seemed not in the least impaired. There was no emaciation. The pulse was rapid in all. There was very little suffering; at least, there was very little complaint. I remember with great distinctness the remarkable placidness of expression of one of these women, when she and her physician felt assured that without any such obvious symptoms as ordinarily accompany the certain approach of death, she could live but a very short time longer. She soon died, and without any striking precursory change.

CASE XI.—By a somewhat curious coincidence, while I am writing I have received a letter from a physician of Dedham, Dr. Carpenter, in a postscript to which is the following. After desiring me to see this case, he says, “I have a case of anhæmia in Spring Street, Mrs. W—. She was confined three weeks since—does not nurse child—had a small abscess in left breast opened to-day—no appetite.” This letter is dated June 20th. Mrs. W., I am informed, died next day. Since above, I have seen Dr. C. He stated the symptoms and treatment. The stomach soon failed, and at the close there was diarrhoea, under which Mrs. W. fast sunk. A prominent symptom was tumultuous action of the heart. The treatment consisted mainly in the employment of such nourishment as the stomach would receive, and of stimulants. The only or principal food that did not produce great distress, was liquid farinaceous. The failure of appetite was such as to make it impossible for her to take other food. Of stimulants permanent and diffusible, all such were used as promised any benefit. She retained her mind unclouded to the last.

The following case came into my possession after the death of its lamented reporter, Dr. J. G.-Stevenson. It is full of interest. It presents the history of a case of anhaemia, with extreme particularity, and as it was a perfectly well marked one, the reader may derive from it highly useful knowledge of the disease itself.

* J. Greely Stevenson, M.D.

CASE XII.—“Mrs. H. was confined on the 15th December, 1832. She was a woman of robust appearance, and somewhat uncommon bodily vigor. For some months before she had suffered under an inflammation of the bronchial mucous membrane, which hardly called for medical treatment, except once in July, when cough and dyspœa were a little urgent, and were relieved by a moderate bleeding at the arm. With this exception she may be said to have passed the period of pregnancy in good health and condition.

She was confined on the 15th December at 5 o’clock in the morning, under the administration of a midwife. She flowed a good deal; though not to a very uncommon extent, nor without healthy uterine action; for all the blood lost was expelled by afterpains; and nothing occurred to excite alarm in the mind of any one of her attendants.

She passed the 16th day of the month comfortably; and the next morning took a dose of castor oil.

18th.—I was called to see her this forenoon. The oil had operated seven times. She was very pale; had a pulse of 120, with considerable action; complained of faintness, not proceeding to syncope, and of headache. Her cough was frequent, with a free mucous expectoration. The tongue was clean; the lochial discharge was natural, and milk was secreted.

19th.—In the afternoon she had alternate flushes and chills, with sweating and nausea. She is annoyed by a pulsation in the head, breast and arms. The skin is warm and very moist. The face, lips and tongue are pale. She is thirsty. Pulse continues 120, and cough is frequent; for most of the day the urine was scanty, rare, and passed with some difficulty.

20th.—She slept most of the night. The skin continues very pale, the extremities are coldish, the hands are numb. The headache and other symptoms continue; the desire to pass urine is almost constant; there is hoarseness, and in the evening there is a slight tendency to delirium. The abdominal parietes are very flaccid; the uterine tumor is hard, firm, and rather long. There is not any soreness or unnatural condition of the vagina or uterus, so far as they can be explored. The urethra is uncommonly large.

21st.—The greater part of the night was passed in sleep. During the day thirst was quite urgent; the headache continued; there was some impatience of light; the pulse was 120, in the evening rising to 124, and being large and strong. Some diarrœa came on in the forenoon, the dejections being thin, yellow, and preceded by some

griping pain. The surface of the body was colorless and waxen; and while the vesication produced by two blisters, which were applied yesterday and this morning, was complete, and the cuticle was raised over their whole extent, no redness was produced in the cutis.

22d.—She slept most of the night. Throughout the day the headache was less; light was painful, and the pupils were much contracted. The pulse remained steady at 120, with a quick and strong beat. The sweating ceased, and the cough was much diminished. In the forenoon there was a sensation of bearing down, as at the approach of her catamenial discharge, which did not last long. And in the afternoon, after some bodily exertion and an effort to evacuate the bowels, she coughed violently, called for fresh air, had numbness of extremities, and “felt as if her face was drawn aside.” This sensation continued for some time; and I found it difficult to convince her that her face was not awry. There were some nausea and vomiting this day. The dejections were not numerous; she felt incapable of making any expulsive effort with the abdominal muscles, though her bodily strength seemed to be great, and she moved and rose from the bed with an ease and quickness which surprised her attendants.

23d.—Most of the last night was passed in sleep. In the middle of the day, the pulse descended, for the first time, to 116. She is quite drowsy. Respiration is natural on both sides of the chest. She vomited once to-day. In the afternoon there was great flatulence; eructations of wind were almost incessant for some hours; and the abdomen was tympanitic. The countenance became very anxious and distressed; and was much changed for the worse, though a little color appeared on the lips. She complained of an overpowering sense of faintness and fatigue; this was somewhat relieved by brandy, ammonia and paregoric, which she took once or twice in the day.

24th.—Slept all night, awaking but once. The tympanitis is gone, and the flatulence. During the day the dejections were numerous, small, thin, green and yellow; she had five discharges of almost unmixed bile. The pulse varied from 120 to 112, retaining the quickness and force of its beat. At noon the pupils were somewhat dilated; and there was an excitement of the mind which increased till evening, when she talked incessantly, and was in a state of great irritation. She complained of faintness, of parched mouth, and sense of burning along the œsophagus. At 11, P. M., she became more tranquil; was groaning often; had a comfortable heat of

skin ; and a spot of red had appeared on the left cheek. The cough, which during the last three days had subsided, increased this afternoon.

25th.—A quiet night and day succeeded ; she slept all night and much of the day, without any opiate. She had some color in both cheeks, and her lips were blueish. The cough was somewhat violent two or three times. She had no dejection. Pulse was 120, except a little while at mid-day, when it was 116. In the evening the skin was warm and very white ; the blueness left the lips.

26th, 27th, 28th.—She passed these days in much the same condition. The surface was like wax. She did not complain of any pain ; was desponding and sighed frequently. She slept much. The pulse varied from 120 to 128, and gradually lost its size and strength. Her appetite was good ; she relished solid animal food ; had one dejection a day, which was copious and faecal. The urine was passed often, about every two or three hours, a gill each time ; it was of a light color, had a very strong, offensive smell, and some mucus floated in it ; it was not coagulated by heat.

29th, 30th.—The prostration increased. She slept a great deal. The countenance expressed great anxiety. Bodily efforts produced panting and distress. The pulse was 132, small and feeble. She did not notice a change that was made in her attendants. Her appetite continued to be good. She had one dejection, which was small and faecal. Urine was passed 8 times in 24 hours, was turbid and very offensive, and was in quantity about four pints. There is a trickling discharge of yellow and offensive urinous fluid from the vulva.

31st.—She had a restless night. Was annoyed by a cough. Had two consistent, faecal dejections ; and discharged less urine ; this has ceased to be offensive and turbid. Her perceptions are dull, and the mind acts imperfectly. Pulse varies between 132 and 144, and is extremely feeble. Respiration is laborious.

Jan. 1, 2, 3.—She continued without any striking change, the pulse and respiration becoming more frequent until January 3d, at 9 P. M., when she died. Her intellect was undisturbed ; and three days before her death, and at several times, she made arrangements for the disposal of her family and her effects, and gave repeated orders for the examination of her corpse.

In the observation and treatment of this case, I had the aid and counsel of Dr. Channing after the second day, and of Dr. Jackson after the sixth day.

The body was examined 18 hours after death by Dr. M'Kean, in presence of Drs. Channing, Ware and Stevenson.

The adipose membrane was full of fat. Percussion returned a flat sound as high as the fourth rib; the arch of the diaphragm reached up to the fifth rib. In the left cavity of the thorax were $3\frac{1}{2}$ $\frac{1}{3}$ of serum, and on the posterior and upper part were some old adhesions between the pleurae. The right cavity contained $2\frac{1}{2}$ $\frac{1}{3}$ of serum. The right lung had some slight, old, interlobular adhesions. It was spongy, and contained little or no red blood; none followed the cut of the knife even in the depending parts, and none followed the section of the large vessels. The bronchi were pale. The left lung was also spongy and bloodless; the bronchi were very red. In both these was a great quantity of frothy liquid, hardly stained with blood.

The pericardium contained $2\frac{1}{2}$ $\frac{1}{3}$ of serum. The heart was pale and flabby; no blood flowed on the division of its vessels.

The peritoneum was healthy. The stomach and colon were greatly distended with air. The stomach would hold a gallon, at least. The coats of this organ and of the intestines were dry, pale, very thin, almost transparent. The arch of the colon contained very dry faeces in minute scybala; there were healthy faeces in the commencement of the colon, and in the sigmoid flexure. The mucous membrane of the rectum was dry and of a very light color.

The bladder contained $2\frac{1}{3}$ of urine; the mucous membrane was pale.

The uterus measured 3 inches across; $4\frac{2}{3}$ from os tincæ to end of fundus. The parietes were thin. Os tincæ was of the color of India ink, or a deep slate; a shreddy, blueish mass was attached to the site of the placenta. There was a small hydatid in the left fallopian tube. The liver was healthy; of a light color. The gall-bladder contained 80 stones of a resinous consistence.

The pancreas was large.

The spleen was rather large; no blood flowed when it was cut.

The kidneys were very pale; the lining membrane of the pelvis was quite white.

On a review of this case, the most obvious cause which can be assigned to its phenomena, is great loss of blood during or after labor. A person, ordinarily in good health, having no perceptible disease except a moderate bronchitis, suddenly becomes pale, the surface of the body being waxy and bloodless; she is faint and fatigued; capable of great bodily efforts, which, however, produce palpitations and

distress ; she has pain in the head, impatience of light, throbbing at the temples, and sometimes an universal throbbing, slight confusion in the mind, and a sense of total and extreme prostration. At the same time the pulse is frequent, large, strong and hard ; at least, an observer who should not see the pallid face and miserable look of the patient, would pronounce it to be hard ; percussion and auscultation do not give signs of any disease in the organs within the thorax. With the exception of the dysuria, which will be noticed hereafter, the functions of the organs below the diaphragm are well performed ; food of various kinds, from liquid farinacea to solid meat, is taken with pleasure and digested with ease. Still, every surface, which can be examined during life, is destitute of red blood. And after death, the only remarkable appearance is the bloodlessness of the tissues ; for the inflammation of the mucous membrane of the bronchi of the left lung, which is the only morbid condition that is not produced by the course of the disease or the approach of death, is quite inadequate to the explanation of the symptoms.

These symptoms and the post-mortem appearances might easily, it would at first seem, be explained by the supposition of great loss of blood during labor. And in the first days of the disease, it was almost impossible to reject this supposition. But when the patient was seen to live for 18 days without flowing, and to be steadily declining all this time, although stimuli in large quantities were supported well, and food of the most nourishing sort was perfectly digested in the first passages, we became convinced that there was some less obvious and less appreciable cause of the phenomena. The testimony that she did not flow a very great deal, was as strong as the case could admit ; besides the midwife, who is quite capable of estimating the truth in such a case, and the worthy nurse who would be very ready to tell it, the patient herself, a trusty maid servant who removed and assisted in washing the clothes, and a judicious aunt whose situation enabled her to know the details of the labor, all agree in the statement that a very great quantity of blood was not lost, not more indeed than they had repeatedly seen, not enough to excite any alarm or remark, though, as is well known, the fears of attendants are very easily alarmed by the sight of blood.

The dysuria, which annoyed the patient in a few first days of her illness, was probably produced by the opium, which she was taking in moderate doses. This effect of opium is not extremely rare ; it is not easy to account for the fact that pain and irritation of the uri-

nary passages, with frequency and difficulty of the discharge, should be produced by this anodyne. So far as I know, it is not mentioned by any writer, though well known, perhaps, to most practitioners.

The treatment was directed to supporting the patient and supplying her vessels with red blood; she took various kinds of alcoholic and vinous stimulants; she had decoctions and juices of meat, and solid meat. All her food was well digested. The administration of iron was several times considered; but it was reasonably concluded that while the appetite was good, and the stomach and bowels disposed of the ingesta readily and healthily, the application of drugs was hardly necessary."

The above minute record makes it unnecessary to add a word more. Without knowing of its existence, I made at the time a brief note of some of the circumstances which had impressed themselves on my mind during my attendance on the case. I do not put them here to confirm what is printed above; but to give the impressions of another witness of the same facts.

Mrs. H., aged about 25, had enjoyed, apparently, extraordinary health. She was safely confined of her third child, having been attended by a midwife in the city. Not doing as well as usual, her medical attendant, the late Dr. Stevenson, was called in. The local difficulties then experienced, were distress in the head, and occasional uneasiness in the abdomen. When I first saw her, the second day from the first notice of her indisposition, I could not but be struck with the change which had taken place in her. She was bloodless—of perfect, I might add of brilliant whiteness. She was not at all emaciated. The fulness of perfect health, and the firmness too remained. The whiteness involved every tissue that could be seen. The tongue, the gums, and whole inside of her mouth were blanched. Her hair was a very light flaxen, and gave a peculiar character to the dead-white face. The manner was perfectly natural. She would scarcely confess to the least local difficulty. There was distress in the head, and pressure of the abdomen occasioned some uneasiness. Nausea was sometimes present; the milk had not disappeared; the pulse was rapid; the temperature raised, but the skin was always sufficiently warm, sometimes moist.

Nothing which I need record occurred to give a more positive character to the disease, or rather to call attention to some particular state of an organ, or of organs, which might lead to an explanation of the disease. The mind, for the most part, retained its vigor.

There was at times a remarkable naturalness in the whole manner of the patient. She called for a glass one day, and was struck with her appearance; the contrast it presented from what was ordinarily exhibited, led to a strong expression of the change. This patient felt early convinced that she should not recover; still there was so little that was positive in her condition, her mind was generally so clear, she suffered so little, and had been so entirely free from disease a few days before, that this certainty of coming death filled her with a species of astonishment. She would ask why she could not recover, and especially if there were not means of recovery which had not been tried. Dr. Jackson was called in, additional means were employed, but the disease went on. The strength was not wholly prostrated. At length the patient, in the strong feeling of approaching death, made, with a particularity very unusual, such arrangements with regard to her children as promised best for them; presents to friends were made with the utmost minuteness of detail, and at last a wish was expressed, nay, the most positive direction was given by her, that her body should be examined after death, that if possible some useful discovery might be made respecting this strange malady which pursued its progress with so little severe suffering, over which medicine had no control, and the end of which was so certain.

Mrs. H. died in the third week of her illness; a most careful examination was made. The textures were some of them dry and pale; the blood was small in quantity, pale, liquid, uncoagulated. Every organ was found in a healthy state.

The following letter is from a much respected friend, a physician in a neighboring town. It is the case of his own wife. I have made some additions, and among these the *autopsy*.

October 2d. 1838.

CASE XIII.—“ *Dear Sir*,—I received yours of 27th ultimo, on Saturday evening. I am glad to find your attention has been particularly directed to the collection of cases of anhæmia, and hope your efforts may lead to the establishment of such facts in relation to this disease, as may enable the profession to treat it more successfully than has hitherto been done. The information I can furnish, is indeed little, for I have met with only one case in my professional life, the melancholy event of which you well know; but I shall cheerfully submit to you all the facts that had a bearing upon that individual case, as far as I can recollect them.

Mrs. W. was from her childhood remarkable for the enjoyment of good health, and was not easily affected by the common exposures to the weather. Her age at the time of her death was 29. She was the mother of three fine boys, and their weight at birth was severally $8\frac{1}{2}$, $9\frac{3}{4}$ and $10\frac{1}{4}$ lbs. The first labor was completed in about 13 hours, the second in about 12 hours, and the third in about 16 hours, all of which were natural. Her health before confinement was generally good for the three or four first months, excepting that she was troubled, as is common, with an irritable and acid stomach. For the next two or three months, she was more comfortable, although costiveness was at times complained of, and relieved by simple enemata. The last two months were characterized more by bilious vomiting, which was, however, only occasional, say once in three or four days, and by a cumbersome state of the whole frame, owing to the size and weight of the gravid womb. This state, though sometimes very uncomfortable for a short period, did not prevent her from attending to her usual concerns.

The birth of the last child took place on the 5th of March, 1836, and nothing different occurred during this labor from what attended her previous confinements, excepting that after removal of the placenta, which was easily accomplished, she complained of a sharp but transient pain somewhere about the external passage, which was removed by an opiate, and did not return. There was not an unusual hemorrhage at this time, nor indeed at any time afterwards; and as far as this fact goes, I can say that nothing of her subsequent disease could at all be fairly ascribed to such a cause, for no more blood was lost than she had lost during her former confinement.

Everything now went on well till after the full establishment of lactation, which was soon followed by sore nipples. The lochial discharge began to diminish as lactation was established, and there was a good quantity of milk, till the end of the second week, from which time it gradually lessened in quantity, till it had nearly disappeared about the end of the third week, when the child was taken from the breast.

About the beginning of the second week, a small abscess began to make its appearance in the left breast, which seemed to have been owing to the suffering occasioned by sore nipples; and I would here remark that she had suffered much with each of her children, by sore nipples, which after three or four months got well of themselves, after many things had been tried with little or no effect.

This state of things was, I think, the immediate precursor of all that train of alarming symptoms which followed. The abscess discharged itself about the middle of the third week, but there was then no abatement of symptoms. We have now come to those symptoms which we may fairly call anhaemic; the first was debility, with rapid pulse of 100 to 130 in the minute, an irritable state of the whole animal system, paleness of the countenance, somewhat leucophlegmatic, clean pale tongue, thirst, occasional chilliness, want of appetite, a slow or sluggish state of the alimentary canal, constipation and at the same time inability to sustain the operation of the mildest cathartic medicine. After these symptoms had continued a few days, I felt such a degree of alarm for her safety, as induced me to request Dr. Jackson to see her, which he did on Sunday forenoon; and on the following Tuesday, I think, he again saw her, with yourself, and after a very careful examination, agreed that it was a case of anhaemia. At this time the symptoms were not materially different from those she had had for several days before, excepting the debility and paleness were more apparent, the pulse being, if I recollect right, 126 and feeble. A solution of the sulphate of iron was directed, with such food as she could relish. But it was soon found that she could not bear much solid food, and stimulants, such as wine of various kinds, cider, and, last of all, brandy and an infusion of capsicum, were tried in succession, but she gradually sunk from debility, and died seven weeks and three days from her confinement, having made no complaint of pain, except an occasional and very slight headache. As nearly as I can recollect, the duration of this disease was about four weeks and two days, if we date its beginning about the time the abscess was discharged, which is perhaps as near the truth as we can get, when we reflect that its proper symptoms might have been obscured by those belonging to the general irritation occasioned by the formation of the abscess." * * * * *

In this letter, which gives in a small compass so accurate a statement of the case, and which makes a detailed account of its symptoms and progress of the disease unnecessary, one very distressing symptom is not adverted to, the state of the brain. Headache is referred to, and I know how much this was complained of. It was not so much for the pain that Mrs W. so often called attention to it, as on account of the sounds of which she was perpetually conscious. These were said exactly to resemble the noise from *sawing wood*.

At times it was described as at a distance, across the road, near a neighbor's house; at others as if at the head-board. So distinct were these noises, so annoying, so distressing, that she would strongly express her surprise that we did not hear them. In order to ascertain if such impulse and sound of the cerebral arteries were communicated beyond themselves, the head was carefully examined by auscultation. It was of course understood that the hearing these noises was the result of morbid sensibility; still there could be no objection to an examination which gave no trouble, especially as it has been recently alleged that auscultation does furnish an important additional means of diagnosis in at least one disease within the skull, *hydrocephalus*.

The breathing was rapid, and there was some cough. These symptoms led to an examination of the chest, but this discovered no lesion of the pulmonary tissues. So was the abdomen carefully examined, on account of occasional complaints in it. But nothing more was discovered there than that kind of uneasiness under pressure, which is not uncommon after labor.

Dissection.—This was made by Dr. J. B. S. Jackson. While I avail myself of Dr. Jackson's notes of this examination, I cannot but pay here my tribute of respect and of thanks, to this distinguished cultivator of morbid anatomy. How large is the debt which the profession here owes to Dr. Jackson, for the uniform readiness and kindness with which he has always labored for and with its members in the prosecution of this fundamental department of medicine.

“Autopsy, 24 hours after death.

Externally, pallor very remarkable. Countenance much altered, looks much older than she is.

Head.—Scalp; some effusion of serum, probably from blister which had been applied.

Dura Mater.—Some soft, whitish coagula in longitudinal sinus, discovered where it corresponds to the convexity of the anterior lobes, although equally on the two sides; consists of a red, soft, fleshy uniform substance growing from the exterior surface, from half to one line thick, looking more like mucous membrane than granulations, though not unlike last; extent not fully ascertained, but probably covered one third or one half of the portion of dura mater above named. Corresponding part of inner surface of skull healthy. Interior surface of dura mater at this part had an ecchymosed appearance, as if from blood beneath the anachnoid; otherwise healthy. Brain quite firm. Otherwise nothing remarkable in this cavity.

Thorax.—Pleurae. Three or four ounces of serum in each. Otherwise quite healthy.

Lungs.—Very œdematous in posterior half. No pneumonia, nor tubercles.

Heart.—Moderately firm; some quite soft, light-colored coagula in both sides. Blood unusually pale.

Mammary Gland.—Some pus and condensation in seat of former abscess.

Abdomen.—Nothing remarkable. Intestines moderately distended with gas. *Uterus.* By measure, a quarter larger than in the unimpregnated state."

Such are the results of a most elaborate examination of as strongly marked a case of anhæmia as has fallen under my observation.

I am indebted to my friend Dr. Hildreth, of this city, for the following notes of a case, which presents many facts illustrative of the disease.

CASE XIV.—Mrs. M. J. M., aged 42, born in England. Confined in April the last time.

Has been pregnant thirteen times, and has miscarried in four or five of them; has always been troubled during pregnancy with uterine hemorrhage, occurring generally about every second week, and lasts two or three hours; blood was generally coagulated, and sufficient to wet two or three napkins. Uterine pain has not generally accompanied the hemorrhage. Probably prevented by opiates and perfect rest. Whenever pain occurred, miscarriage followed. Within last five years has miscarried twice, and been confined at the full time three times. General health not robust; rather slender frame, with large limbs. Temper naturally irritable.

Mrs. M. was confined, just three weeks before her death, of a living child which survives. Labor natural; lost as little blood as possible. Began to fail two or three days after confinement. Grew exceedingly pale; lips particularly blanched. Skin rather warm and dry. Slight chills once or twice. Pulse ranged about 120, and was small and irritable. Some headache at first; very much annoyed by noises out of doors or in house. Dr. H. does not remember whether she complained of noises in her head. Great irritability of temper—a very prominent symptom. Often restless and wakeful at night. Previous to confinement, felt and said that she should die. A week before her death she wrote a note, which was read at church for herself as about to die, though at the time there

was nothing particularly threatening in her case. Appetite for light food continued, and occasionally she sucked a small piece of meat, and drank a teaspoonful of brandy, which she said made her feel better. No appearance of disordered stomach, except during the last week, when there was some nausea. Bowels disposed to constipation, and medicine given to remove it, generally over-operated. Milk, which was scanty in the first weeks, stopped entirely in the last. Lochia natural. Never any tenderness in the abdomen. Was thought to have lost flesh during the disease.

Autopsy, by Dr. J. B. S. Jackson, May 10th, 27 hours after death.

Externally, well formed. Rather tall, not very fleshy. Slight rigidity. Thin, bloody vaginal discharge.

Thorax.—Pleuræ. No recent disease. One or two adhesions to a very small extent. Three or four ounces of serum on each side.

Lungs.—Both lower lobes and the upper right were greatly œdematos, the serum having a yellowish tinge, not unlike the color of barley candy. A frothy serum flowed from large bronchi in great abundance, on pressure, before cutting of organs; also some mucous of same yellowish color; lower lobes friable, somewhat reddish; no pneumonia. Patch on surface of left apex, as from old disease, and such as is often seen; slightly firm, inelastic, irregular to feel. In the anterior part of base of left lung is a mass of the size of a cherry stone, partly cretaceous, but mostly a condensed curdy substance—white, rounded, imbedded in substance of organ, and near the surface, which is depressed. No other tuberculous affection.

Air Passages.—Mucous membrane healthy. One of the cartilages, just at the division of two of the large bronchi, seemed nearly ossified.

Bronchial Glands, black as ink, moist and very soft; considerable cretaceous matter.

Pericardium.—Usual quantity of serum; large, milk white patch on surface of right ventricle.

Heart.—Of usual size, flaccid, pale; more so than the voluntary muscles, which were more so, however, than usual; *foramen ovale* closed; left ventricle rather thin, exterior (pericardial) surface somewhat red; inner surface not stained with blood; structure otherwise healthy.

Blood, watery, pale red; some flocculent putriliginous looking coagula in right side; moderate quantity of fibrine in right ventricle and pulmonary artery, of dull yellowish color, and quite soft; some of the same in left auricle.

Abdomen.—Peritoneum healthy. Stomach greatly distended with gas; about three ounces of mucous and liquids. Colorless mucus adherent to pyloric portion; mucous membrane colorless; thin everywhere; soft in lower half.

Small Intestines, collapsed and quite small; some pasty substance in upper part, nearly colorless.

Large Intestines, much distended with gas, and for the first foot greatly so; nearly empty; some yellow fluid in first part, and some quite soft faeces towards termination. Intestines only opened in three or four places, but there they looked healthy.

Liver, of usual size, quite flaccid, and unusually friable. Gall-bladder small, filled with intensely dark and very viscid bile.

Kidneys, flaccid.

Bladder, contracted; contained a very little colorless secretion.

Veins.—Vena cava, spermatics, and the external and internal iliacs on each side were opened. The parietes and the inner surface appeared healthy. The contents appeared morbid. The blood was watery and pale, as every where else. By pressing on the inside of the pelvis, the parts being *in situ*, the blood was forced up into the iliac veins, and as it flowed over into the common iliacs, it was distinctly observed by those present, to be mixed, not merely with "putriginous looking flocculi, such as were found in the heart, but with a thick, whitish, opaque fluid like pus." No distinct pus was seen by itself, but the contents of the veins perfectly resembled blood with some mixture of pus. This appearance was observed on each side. There were in several veins very firm solid masses of coagula of whitish color, mixed with red; fibrine with some red globules, round like a pipe stem, filling the vein an inch or two long, tapering off to a point, not adherent; found one of them (the piped-shaped membranous masses) in the broad ligaments.

Uterus, four and a half inches long, including the os tincæ; greatest width three inches; five lines thick at fundus, and gradually increases to cervix, where it is nine lines; i. e. the parietes. Outline of neck sufficiently marked; one inch long; arbor vitæ not to be seen, but on the anterior face one or two longitudinal fissures, not very deep. Glandulæ nabothi quite large and numerous; considerable quantity of transparent, yellowish, thick, gelatiniform mucus just within os tincæ. Organ quite flaccid. Color of cut surface whitish, muscular structure not to be seen. Interior surface smeared over with a thick bloody fluid; one loose coagulum about one third inch

in diameter. Site of placenta very satisfactorily made out, on the left side of the body of the organ, just below fallopian tube, quite rough or knotted in this part, from many small, dark coagula just beneath the surface, probably the plugs of the uterine veins. Ovaries small. Corpus luteum in left, distinct, two and half to three lines in diameter, oval, brownish yellow zone around ; centre colorless ; could not perceive a cavity ; pit over it ; no cyst.

Vagina, unusually smooth on inside, dull-reddish color.

Organs generally in thorax and abdomen pale. *Spleen* large ; dark-red externally ; very flaccid ; dark-brownish red internally and externally ; soft ; on pressing it, a very thick grumous fluid was forced out in great abundance, leaving the proper tissue of the organ colorless, and especially after being washed. Appearance undoubtedly owing to some peculiar condition of the blood."

CASE XV.—Mrs. W. was safely delivered of her second child. She was visited the usual time after delivery, and was left in apparently good health. In about a fortnight after I was desired to see her. I found her looking greatly changed. She had always been noticed for her perfectly healthful appearance. Her hair was very light flaxen, eyes blue, complexion fine, clear white and red ; flesh abundant, though not excessive ; the whole form, expression and complexion just what you often see in a woman of about 22, who has never known disease nor trouble. The change which struck me at my visit, had regard mainly to the skin and to the expression of the face. She was not at all emaciated. Her skin was entirely destitute of its natural color. The face, lips, the tongue, the edges of the eyelids, and the angles of the eyes—in short, every spot in which I remember to have seen color, was now entirely white. It was not the pearly white which I have seen in other cases. There was a slight yellow infusion with the white, which gave to it a dirty hue. This, however, much disappeared when the light fell full on the face. Then again the expression. This was anxious. The eyes, which were naturally quite open, were now almost staring. There was marked distress in the face ; but not such as usually accompanies pain, or any apparent apprehended evil. She was nursing her baby, and I cannot tell you how strangely this office was contrasted with her morbid appearance, which showed as if it were impossible she could have milk. She was sitting up, and was down stairs, but on inquiry I learned she was very feeble ; her voice was hollow and weak ; her appetite almost nothing. Still she had milk, and her child appeared perfectly well.

I learnt that she had been failing, without any obvious cause, for some days. Suffering had been so slight, or rather so wanting, that her state had attracted but little attention. I kept notes of this case; but it would be a tedious office to read the detail. She was soon obliged to take to her bed, and never left it again. Her head was in constant distress. Each pulsation in it was accompanied with (to her) a distinct loud puff or buzz, compared to the letting off of steam from a locomotive engine. She lived near a rail road. In both Mrs. Q. and Mrs. M.'s cases, the same comparison of the noise in the head was made. This state of brain prevented sleep, and made the whole situation of the patient most uncomfortable.

One symptom was very striking in Mrs. W.'s case, and as it occurred in all I have seen, it deserves special notice. I refer to the color of the veins, or rather of the blood in them. This is a *bright pink*, totally unlike the ordinary deep blue of venous blood. Where the anæmia is excessive, you may look in vain in the usual places for the superficial veins. They are generally so nearly empty of blood, as to show none. But in these extreme cases there are places in which vessels may be detected, and especially on the inside of the wrists. Here I have never failed to find these vessels. They are of a bright pink, or light rose color, the tint being very beautiful as seen in contrast with the marble whiteness and marble smoothness of the surrounding skin. The skin often becomes so nearly transparent, that these veins resemble painted flat lines on the surface, rather than a subcutaneous round vessel.

The stomach and bowels gradually became disordered in their functions, and the increasing debility and total loss of appetite for solid food, made a constant and increasing use of stimulants necessary. The effervescent, as champagne wine, and bottled cider were most craved, and were best borne. Diarrœa was a troublesome attendant, and the means used to restrain it often disturbed other functions. This patient had extensive *purpura* over the extremities, accompanied with blood from the bowels, and from the bladder. This is the only case in which I have noticed this complication. There seemed to have been too little blood in them to give rise to it; and in Mrs. W.'s, where the extreme of bloodlessness existed almost from the first, you would have never looked for such a symptom, or rather disease.

The pulse in this case was always rapid. This was noticed in all the cases. Respiration was hurried and labored, and gave a pecu-

liar character of hurry and uncertainty to her voice. She continued to fail, though most carefully nursed, and though constant efforts were made to prevent death by all such remedial means as were thought to promise best to prevent that issue. She died about three weeks from the attack.

CASE XVI.—Anhæmia in this case begun and was fatal during pregnancy. I have seen no similar case. I was desired to see Mrs. K., and was at the time informed that she was exceedingly ill; that she had been seen by her physician only very recently, and that her recovery was very doubtful. I found her in great distress; and from the character of her complaining, there being a distinct bearing-down effort made almost without intermission, I believed she was in labor. Her distress was too great to permit her to state what the nature of her suffering was, and in a few minutes she became unconscious. The bearing effort ceased, and she rapidly sunk and died undelivered. The symptoms of anhæmia in this case were very distinct, and though she had been very ill for several days, her rapid sinking was ascribed to excessive discharges from the bowels produced by medicine given by her friends. No examination was made. Death took place in less than an hour after I first saw the case.

CASE XVII.—Mrs. B. was safely delivered of her fourth child, Oct., 1841. She had been troubled with diarrhœa during about eight months of pregnancy, and this continued from delivery to death. She was always very pale; white, light hair and eyes, sufficiently fleshy. Anhaemia was marked by its usual symptoms, with the addition of diarrhœa. The pulse was very rapid. She retained the powers of the mind after an extraordinary manner; and a serenity equal to any alluded to above, was very marked. The close of life brought no fear with it.

Examination discovered the usual facts of anhæmia, with the addition of some slight ulcerations in the bowels, which accounted for the diarrhœa.

PATHOLOGY.

This is the most important topic presented in any and every medical history. The solution of its problems would be a sure guide in the diagnosis, prognosis and treatment of disease. Said a most distinguished teacher of the theory and practice of medicine, “If I can in any useful degree teach the pupil what disease is, I have no question that he will treat it well.” What is anhæmia?

The answer must be looked for in the symptoms during life, and the appearances on dissection.

SYMPTOMS.

These have been stated in the cases. They are found in the state of the skin, the brain, the organs of the thorax and of the abdomen. There is the brilliant whiteness, smoothness, roundness, dryness and warmth of the *surface*, every where; the blanched lips, mouth, tongue; the scarcity of external or subcutaneous *veins*, and the bright pink color of their contents, with the want of the roundness in these vessels, which results from their fulness. In the *head* we have various noises which accompany the cerebral circulation. In the *mind*, various states from indifference to anxiety. For the most part great serenity, and a looking for death without fear. In the *chest*, the most constant symptom is the tumultuous action of the heart, sometimes extending to the abdominal aorta, leading, in one case of which I have a brief record, to the belief that the disease was aneurism of that artery; and in the case of S. H., above, where the action of the heart was most violent, to its being confounded with grave disease of that organ. *Respiration*, at times easy, at others labored. In the abdomen, nausea, and other disturbance of the stomach was observed in some cases; and diarrhoea more or less obstinate in others, in one accompanied with melœna.

For the appearances on dissection, the cases are referred to with the single remark, that in the majority of them, no such lesions were discovered that threw any light on the disease. Where the heart, the brain, or other organ had been most disturbed during life, there was entire want of appreciable lesion discovered after death. In all, however, very noticeable changes were discovered in the blood. And in whatever organ this fluid was examined, it betrayed the same condition.

Of the *blood*. The nature of anhæmia has been looked for in the condition of the blood. This condition has been traced to chemical, physical, and vital changes in the composition, and of course appearance of this fluid. Thus the blood is pale; hence we are told the red globules, and especially what colors them is changed, or is more or less wanting. It is more liquid, coagulates but slightly, or not at all; hence the composition, its chemical elements or their relations, have undergone changes of some sort. Now as the blood is just what it is by its life, its vitality, whatever new combinations, or disturbances in the proportions of its elements, or other modifications it may manifest, must

be resolved into such conditions of its own present state as interfere with its power to sustain itself just in such a condition in regard to its whole being, as will constitute it healthy blood. In other words, I look to life, let it be what it may, as the condition of health ; and in disease, I find a condition of the whole, or of parts of the system, which interferes with their manifesting the vital power in its integrity or completeness.

The condition of the blood in anhæmia is very remarkable. Thus the small vessels nearest the surface of the body, in perfect health, by their mode of action, or contents, give to that surface a tone of color which is never *white*. Said an eminent artist to me one day, “ The sk’n in health is never white, and he who paints in imitation of it, will never succeed by using white paint alone. Only, said he, take a piece of white paper and place it on the fairest skin you ever can find, and the strongest contrast between them will be at once perceived.” I speak of the surface elsewhere than of the face. There in health the small vessels circulate the blood in its *whole* color of red, elsewhere they modify it. In anhæmia the case is wholly different, and we perceive at once such a difference as satisfies us that the blood has undergone change. It is only and wholly white in the skin, even of a more intense whiteness than exists after death.

Then look at the veins where you can see them. They differ entirely in their color and size, or, as I would express it, *shape*, seeming rather *flat* than *round*. Here we have the blood itself, not as it is modified by the capillaries, if so, in health ; and it is of a bright pink or rose color, instead of the healthful modena blue of its most natural state, and which in its contrast with the natural complexion is so beautiful. Then the state of the blood in the great vessels, as showed by dissection, is remarkably unlike true blood. It is thin, watery, pale, with soft, or no coagula. It resembles somewhat the blood which escapes at length from a wound which cannot be closed, as from pulling a tooth, cutting the gums, &c. in hemorrhagic persons. Yet the blood of anhæmia has its differences from this. In its cause it especially has these, *for it is not a state induced by hemorrhage*. At least, in the cases which I have seen it has not been so.

In speaking of what is anhæmia, there is one fact which I cannot pass unnoticed. It was presented in one case only, that of S. H., and impressed itself upon me deeply. I refer to the violence with which blood burst from the orifice made in bleeding her. The heart was acting with great energy. It was tumultuous in its action. Her

veins were of bright arterial color, as strikingly so, if not more so, than I have ever seen it before or since. Does not this single fact teach a doctrine of the greatest importance in this question of pathology? Does it not teach that the small vessels, which are the great artificers and agents in all organizations and all actions, that preserve the balance in health, and do most to control disease, does not this single case teach that the action of these vessels, their true functions, are subverted in anæmia; that the arterial blood does not become venous in the capillary circulation; nay more, that this system undergoes such a change in its physical, as well as functional state, as to allow the blood to pass from one system to another with an ease, a freedom, that gives to the venous circulation the character of the arterial? This is a bold *generalization*, I well know, if such it can be called, to make a *doctrine* out of a *single fact*. But has it no support? Does it not get some in the absence of emaciation in the midst of the universal or apparent absence of all the processes which sustain the flesh? How feeble has the absorbent system become, since seemingly it remains without function, or any such function as ordinarily produces waste, and this too, when the nutritive processes are scarcely more active, than their opposite, or antagonist ones? True, appetite is not always wanting, and food is sometimes well borne, and apparently well digested. Chyle then is formed and enters the circulation, and in the current of blood with which it is mingled, finds its way to the lungs, and dissection shows how little diseased are these organs; so little, that we have no reason to suppose that the blood fails to receive all such action from these organs as may be necessary towards its perfection. But examine it in its vessels, or out of them, especially in the veins, and at once we find, as was above shown, that it has not all the properties of true blood.

Now how is blood made? A short question, but of difficult, if not impossible answer. The white chyle passes into the left subclavian vein and there mixes with the venous blood, which living fluid and living vessel act momentarily upon it, and convey the blended mass to the heart. Here it is again acted upon, and then enters the lungs. New agencies are here exerted; and still farther changed, it returns to the heart again for new action, and for a new direction. The arteries receive it, which may possess a higher life than any of the organs which have yet acted upon it, both in themselves and in the capillary system to which they give origin. In these it becomes perfect blood, and from them, composing as they do the greater if not the most im-

portant portions of all the organs, proceed directly all the various products or secretions of true blood. This is a sketch of the progress of chyle to blood. It is no answer to the question, "how is blood made?" What are the precise agencies of the several parts of this complex apparatus, and in what part of it does that disturbance begin which ends in the formation of the blood of anhæmia? or that arrest of blood in its true formation? I have looked to the small vessels—to those organs in which the process would seem to find its termination, for that defect of function which results in imperfect blood; and I have arguments for this notion, in the color of the surface of the body, the color of the blood in the superficial veins, and in the phenomena which attended bloodletting in an important case. I have not alluded to the nervous function as regulating all others. That doubtless sympathizes with the whole disturbance; nay, it may give rise to it all. If I had a single fact to indicate, however remotely, what is the condition of the nerves themselves in anhæmia, or how their functions are disturbed, most gladly would I have set it down. It will not do to refer me to the excited sensibility of the brain, which gives voice, so to speak, to every pulse of every cerebral artery; nor to the tumultuous action of the heart, and aorta; for what more could you expect from these organs, acting as they do under the direct influence of imperfect blood?

One appearance on dissection has not been alluded to. I refer to a remarkable dryness of the textures. This was most observed in the case of Mrs. H. Attention was led to it in the beginning of the dissection, viz. while raising the muscles from the ribs. The cellular membrane was almost dry enough to crepitate when cut, and did so when forcibly torn by the hand. The peritoneum had the same remarkable dryness, as did the muscles. This fact may find its explanation in the deficiency of blood which belongs to the disease. Not that it belongs to it in the relation of cause and effect, as will be shown in the *diagnosis*; still it does teach something of the primitive or connected disturbance of the system of vessels now under notice, and so deserves regard. What has now been referred to of a strictly pathological bearing, is rather the expression of thoughts which have occurred to me while writing of anhæmia. It is not offered as new, nor as containing a theory of the disease. It may lead to other thoughts. It may give to the whole subject an importance which it may not now possess. The disease is a most fatal one. It is not so rare as may be supposed. I might easily add to the cases already given, and from the record of them, too, show how fatal anhæmia is.

In this pathological inquiry I have purposely omitted, for distinct notice, a subject which gives to it its principal interest; viz. the connection of anhæmia with the *puerperal state*. It will be seen that the greater number of cases occurred in this state, and that with the exception of two only, and to which reference merely is made, all of them have ended fatally. I do not recollect that any writer has treated of anhæmia in this connection. I have examined the latest and fullest systematic work, and which has a chapter devoted to anhæmia, but which has not an allusion to the *puerperal state* as leading to, or as having been complicated with it. The cases in this paper occurred in females, excepting a single instance. Among the women, only one was unmarried, and this was fatal. In others, where the symptoms were well marked, but which were not *puerperal*, there was recovery. This state, then, deserves especial notice in our inquiry; most particularly does it so, when the great fatality of the disease at such a period is considered. In what the predisposition of such a state to such a malady consists, I know not. I can only say I have seen it pursue its unobstructed course in women recently confined, who have seemed the least liable to any disease either before delivery, by the occurrences of labor, or afterwards. Suppose no special predisposition to exist, may not the puerperal state itself, if not a cause, be an unfavorable condition for sustaining the disease should it occur from common causes, and so the mortality of such cases be in part explained? Or, may not the puerperal state lead to graver invasions of anhæmia, let its causes be what they may? It is the purpose of this paper to show that some connection subsists between the puerperal state and anhæmia, either as to predisposition, cause, or character and tendency of the malady, in order to lead to a more faithful study of the whole subject than it has received.

DIAGNOSIS.

Anhæmia after delivery may be confounded with that state which follows immediately, or soon after uterine hemorrhage. In the first or immediate state, the surface may resemble anhæmia; while some of the symptoms of *reaction* are still more nearly like it. A very little observation will show that the *color* of the skin after hemorrhage, is wholly unlike the *no color* of anhæmia. The skin, in the first place, may be blanched; but you see at once that something of its natural hue remains. It is not *red* in any sense of the word, but in this circumstance alone does it look like that of anhæmia. There

is *complexion*. Then again the face especially, and to this are these remarks confined, after hemorrhage, is sunken, wanting its natural expression ; showing in the suddenness of the exhaustion, how sudden has been the action of the cause which has produced it.

Reaction.—After uterine hemorrhage, this sometimes is excessive, and along with the continued pallor, its symptoms nearly resemble anhæmia. The principal of these symptoms is the violent action of the heart and arteries, and the sounds which accompany this action. In the *brain* we may have sounds which may be thought to imitate those which accompany anhæmia. They differ, however, in this. They are called a *beating*, or rather thumping in the head ; and are referred to various parts of the head, the temples especially, not to the ears ; they are *felt* rather than *heard* ; and I have never known them to be compared to the distinct noises that are so painfully annoying in anhæmia. The least motion of the head increases the trouble almost to agony. The woman gets no sleep, and manifests extreme and general distress. So with the *heart*. Its action is tumultuous, audible to the patient, and is increased by the least motion.

Now how soon do all these troubles, incident to an excessive functional effort, give place to a controlled and salutary degree of *reaction* after *hemorrhage*? Sometimes again it passes into the truly morbid, even to the production of *peritonitis puerperarum*, or puerperal fever. So often has this been noticed, that judicious observers tell us, that in an epidemic invasion of that disease, we are not to look for exemption from it, in the profuse, nay, dangerous hemorrhages which may have attended labor. We may even be called on to practise active depletion in just those cases in which we might *a priori* have supposed it least likely to have been demanded. I might here show how prompt is sometimes this *reaction*, how salutary soever it may be, to pass into threatening local inflammation. Witness a case reported some time since in the London Medical and Physical Journal, of transfusion of blood done to prevent death from uterine hemorrhage, in which in a day or two afterwards it became necessary to apply *leeches* for a threatening *phlebitis*, which had attacked the arm in which the transfusion had been done. Thus it is that simple *reaction* from *loss of blood* differs entirely from anhæmia. Every day that passes makes the safety greater in the one state, while time only develops more and more rapidly the fatal result of the other.

Diseases of the Heart and Arteries.—I have already given at some length a case, that of S. H., which was regarded as organic

disease of the heart, and in which bloodletting had been so frequently practised to save life. In that case anhæmia would seem to have been produced, or certainly not benefited, by the depletion for the supposed disease. Examination showed the error of the diagnosis. The heart was perfectly normal in its structure. I know, or rather have heard of a similar mistake, after a most careful *diagnosis*; and have before me the record of a supposed veritable aneurism of the *aorta*, which turned out to be no aneurism at all, i. e. at the *autopsy*. These were both cases of anhæmia. In these instances the disease was chronic, at least had existed much longer than is common with the disease which they seemed so exactly to imitate. The diagnosis of the more usual forms of anhæmia, which are strictly *acute*, or are speedily terminated, cannot be very difficult. The palpitation of the heart, and pulsation of the arteries, may be never so tumultuous, still there is over and above all these, so much obviously threatening disease, with occasionally, I acknowledge, most extraordinary contradictions, that a careful observer cannot but see that the apparently most pressing symptoms are in reality the least so; that death is surely coming, but to which event those symptoms in themselves would hardly be supposed to lead. And how rare is it for those symptoms to be dwelt on by the patient? Nothing has been to me more striking, I had almost said startling, than the perfect serenity, the emphatic prophecy that life will soon cease, and the composure with which that event has been looked to, as these have been manifested by women, and by young women too, who have been just placed in the most important and interesting relation of life. You feel at the moment, and the thought never leaves you, that this mysterious malady has not its place in any one organ, an organ whose obvious lesion is after death to tell you the story of its cause. The whole material organism is disturbed, diseased, while the immaterial, the spiritual, has gained new power in the very midst of all this physical confusion.

But how is anhæmia distinguished from the organic diseases just named? I have named one means of diagnosis in what I have just written. Then the symptoms given before, aid the question. You do not find in it any of the local or general symptoms which mark an organic disease soon to be fatal. The characteristic cedema of the face, of the feet, of the ankles, the ascites, the deficient urine, the thirst, the febrile commotion, the emaciation, the difficulty of any particular *decubitus*, especially the strongly expressed demand for an elevated position of the body; all these are wanting in anhæmia. In the genu-

ine disease, attacks are not paroxysmal, at least not so as in simple nervous heart, or in the graver organic lesions of that organ. There is no emaciation. At least I remember but one case in which this was very striking; viz., in the protracted one of the young man which stands first in the series. And how strong is the contrast between the marked serenity and absence of complaint, even where the disturbance of the circulation is greatest, and that deeply expressed, and visible anxiety, and even pain almost amounting to agony, which attends the severer paroxysms of heart disease. I cannot but notice this, now that I am attending a young person with such disease in its worst form, whose life for years has been an almost continuous suffering, and who, now apparently at the close of life, is conscious of nothing but physical misery, and yet is daily occupied with the delusive hope of recovery.

Chlorosis.—In its chronic state anæmia may imitate chlorosis, and by excessive depletion for some of the severe symptoms of the latter, the former I think may be produced. I have given a probable case of this kind. In its connection with the *puerperal* state, however, whether acute or chronic, I hardly think such an error of diagnosis can arise. I however have said quite enough of the disease itself, and of its imitations, to make it unnecessary to point out in detail, or even at all, in what it differs from chlorosis.

PROGNOSIS.

The character of this is easily to be gathered from what has been said in every page of this paper. The hourly and daily persistency of the same symptoms, with the as strongly marked failure of all the powers of life, and the unceasing progress to death which almost ever case has made, tells us what the *prognosis* should be. The unfavorable character of this gets new force from this single and simple fact, that in the two cases of anæmia which are reported to have recovered, there was no such change produced by any portion of the treatment, as authorized those who attended the cases to decide in any degree on what these recoveries depended.

TREATMENT.

The last question does much to settle the questions which the treatment of anæmia involves. The dissections which have been reported in this paper, and it would have been easy to have added to them, have thus far shed too little light on the nature of the disease to guide us in its

treatment. These teach us how fatal a disease may be, the individual instances of which may have so strong a resemblance to each other as almost to seem to depend on some specific cause, and still leave no marks behind. The most which has been done by treatment, has been to attempt to answer the most obvious indications; and in the midst of universal physical prostration, with perfect mental vigor, to assist what power remains in sustaining the functions on which living depends. The question of *transfusion* has often occurred to me. But of what possible benefit would be such a supply of blood? What might not the effect be of filling almost empty vessels with a fluid so unlike that which already circulates in them, and which *their own functions* have produced? In a disease so fatal some risk might be incurred. But is *transfusion* an operation which our present knowledge of it would authorize? If safe in itself, however, might not time be gained by the operation, for such functional changes to occur as would supply healthful blood?

NOTE.

I have received the following notes of the last two cases, from the physician who attended them, since the above went to press. For them, I beg him to accept my best thanks.

Mrs. B. had been affected some months before confinement with diarrhœa, accompanied by palpitation, vomiting, ringing in ears, pale lips and skin generally, by tendency to faintness, and by aphthous mouth. About a fortnight before confinement had a smart attack of vomiting and purging, keeping her confined to the bed a few days. Her labor was very favorable, Oct. 27, 1841, and for two days she was very well, and costive. She then took a half ounce of oil, which operated moderately, but afterwards the action of the bowels kept up, but not urgently, for about a week. By November 3d it became urgent, and other symptoms began to appear, but still the appetite was good and milk continued. From this time till death, which took place November 15th, she continued growing worse, with only an occasional temporary mitigation of symptoms. The diarrhoea was less urgent as to the number of discharges, but they were accompanied by great prostration. The pulse varied from 130 to 144. The mouth sore, white, red, sodden. Frequent vomiting, fainting on arising,

ing, copious collection of mucus in fauces and œsophagus, which was frequently hawked up and sometimes created gagging; countenance quite pale, &c. Pulse not only frequent, but very deficient in force. Slight exacerbations. Mind perfect to last. Exhaustion remarkable both from vomiting and dejections.

Mrs. K. has been out of health several years. Several children born dead. Not been well through this pregnancy; sore mouth, œdema of various parts, especially genitals, with great soreness. Called to her,

April 2.—Very pale lips, ears, tongue, &c.; mouth very sore; much swelling and intense soreness of genitals.

April 7.—Increase of all symptoms; roaring in ears; discharge of blood from rectum; great smarting of anus and genitals; short high breathing; diarrhœa; delirium; great distress at epigastrium and for breath; groans; death at 3 P. M., April 11th.

